

61 wherein each of the source and the drain regions [have at least one] has a portion containing one or more elements selected from the group consisting of carbon, nitrogen, and oxygen at a concentration of 1×10^{19} atoms/cm³ or more, and
wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

62 Sub I 47 82. (Amended) A device according to claim 78 wherein [said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] a threshold voltage of said n-channel TFT is approximately equivalent to that of p-channel TFTs.

63 Sub I 47 84. (Amended) A semiconductor device for electro-optical device comprising a CMOS device comprising n-channel and p-channel TFTs, each of said n-channel and p-channel TFTs comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,
wherein each of the source and the drain regions [have at least one] has a portion containing carbon at a concentration of 1×10^{19} atoms/cm³ or more, and
wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

64 Sub I 47 88. (Amended) A device according to claim 84 wherein [said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] a threshold voltage of said n-channel TFT is approximately equivalent to that of p-channel TFTs.

65 Sub I 47 90. (Amended) A semiconductor device for electro-optical device comprising a CMOS device comprising n-channel and p-channel TFTs, each of said n-channel and p-channel TFTs comprising:

a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein each of the source and the drain regions [have at least one] has a portion containing nitrogen at a concentration of 1×10^{19} atoms/cm³ or more, and

wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

94. (Amended) A device according to claim 90 wherein [said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] a threshold voltage of said n-channel TFT is approximately equivalent to that of p-channel TFTs.

96. (Amended) A semiconductor device for electro-optical device comprising a CMOS device comprising n-channel and p-channel TFTs, each of said n-channel and p-channel TFTs comprising:

a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein each of the source and the drain regions [have at least one] has a portion containing oxygen at a concentration of 1×10^{19} atoms/cm³ or more, and

wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

100. (Amended) A device according to claim 96 wherein [said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] a threshold voltage of said n-channel TFT is approximately equivalent to that of p-channel TFTs.

102. (Amended) A semiconductor device for electro-optical device comprising:

69 a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

Sub I 21 therebetween,

wherein said channel region has at least [one portion] two portions containing one or more elements selected from the group consisting of carbon, nitrogen, and oxygen at a concentration of 1×10^{19} atoms/cm³ or more, and

wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

Sub I 24 108. (Amended) A device according to claim [102] 103 wherein [said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] a threshold voltage of said n-channel TFT is approximately equivalent to that of p-channel TFTs.

610 109. (Amended) A device according to claim 102 wherein each of said [portion] portions is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

110. (Amended) A semiconductor device for electro-optical device comprising:

a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein said channel region has at least [one portion] two portions containing carbon at a concentration of 1×10^{19} atoms/cm³ or more, and

wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

611 116. (Amended) A device according to claim [110] 111 wherein [said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] a threshold voltage of said n-channel TFT is approximately equivalent to that of p-channel TFTs.

117. (Amended) A device according to claim 110 wherein each of said [portion] portions is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

118. (Amended) A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,
wherein said channel region has at least [one portion] two portions containing nitrogen at a concentration of 1×10^{19} atoms/cm³ or more, and
wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

612 124. (Amended) A device according to claim [118] 119 wherein [said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] a threshold voltage of said n-channel TFT is approximately equivalent to that of p-channel TFTs.

125. (Amended) A device according to claim 118 wherein each of said [portion] portions is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

126. (Amended) A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

G12 a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein said channel region has at least [one portion] two portions containing oxygen at a concentration of 1×10^{19} atoms/cm³ or more, and

wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

Sub 135 132. (Amended) A device according to claim [126] 127 wherein [said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] a threshold voltage of said n-channel TFT is approximately equivalent to that of p-channel TFTs.

G13 133. (Amended) A device according to claim 126 wherein each of said [portion] portions is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

134. (Amended) A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween;
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween;
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and
a pixel electrode on said second interlayer insulating film,
wherein each of the source and the drain regions [have at least one] has a portion containing one or more elements selected from the group consisting of carbon, nitrogen, and oxygen at a concentration of 1×10^{19} atoms/cm³ or more, and

G13 ~~wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.~~

G14 138. (Amended) A device according to claim 134 wherein said [channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] gate electrode comprises a silicon film containing phosphorus, a multilayer film comprising silicon and molybdenum, or a multilayer film comprising silicon and tungsten.

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G15 140. (Amended) A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween;
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween;
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and
a pixel electrode on said second interlayer insulating film,
wherein each of the source and the drain regions [have at least one] has a portion containing carbon at a concentration of 1×10^{19} atoms/cm³ or more, and
wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

G16 144. (Amended) A device according to claim 140 wherein said [channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] gate electrode comprises a silicon film containing phosphorus, a multilayer film comprising silicon and molybdenum, or a multilayer film comprising silicon and tungsten.

146. (Amended) A semiconductor device for electro-optical device comprising:

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a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween;
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween;
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and
a pixel electrode on said second interlayer insulating film,
wherein each of the source and the drain regions [have at least one] has a portion containing nitrogen at a concentration of 1×10^{19} atoms/cm³ or more, and
wherein said channel region contains boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

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150. (Amended) A device according to claim 146 wherein said [channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³] gate electrode comprises a silicon film containing phosphorus, a multilayer film comprising silicon and molybdenum, or a multilayer film comprising silicon and tungsten.

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152. (Amended) A semiconductor device for electro-optical device comprising:

a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween;
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween;
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and